

IN THE CLAIMS

Cancel claims 1-26, and add new claims 27-36 as follows:

27. (New) A disk storage system comprising:

a disk storage unit having a plurality of records capable of being accessed by a data processing unit, each of said records having a variable length and a data field for storing data and a control field which includes data indicating a length of the data field; and

a control unit connectable to said data processing unit, having a controller and a cache memory for storing data in some of said plurality of records of said storage unit;

wherein said controller receives a write request to update data stored in said variable length data field except for data stored in said control field, regardless of whether or not said one record is stored in said cache memory, and if said write data received from said data processing unit is invalid for the data field of said one record, said controller notifies an error to said data processing unit without accessing said one record of said storage unit.

28. (New) A disk storage system according to claim 27, wherein if said write data is valid for said data field of said one record, said controller stores said write data into

said cache memory without accessing said one record of storage unit, performs transfer operation for transferring said write data from said cache memory to said disk storage unit, and reports completion of said write request to said data processing unit before completion of said transfer operation.

29. (New) A disk storage system according to claim 28, wherein said controller has a memory which is used to store track information that enables said controller to recognize length of the data field of respective said plurality of records of said storage unit.

30. (New) A disk storage system according to claim 29, wherein said controller, in response to said write request, checks whether the length of said write data received from said data processing unit is valid for said data field of said one record on the basis of said track information.

31. (New) A method for controlling disk storage system including;

a disk storage unit of having a plurality of records, each of the records is a variable length record capable to being accessed by a data processing unit and has a

data field for storing data and a control field which includes data indicating a length of the data field, and

a control unit, connectable to said data processing unit, having a cache memory for storing data in some of said plurality of records of said disk storage unit,

said method being performed by said control unit and comprising the steps of:

receiving, from said data processing unit, a write request to update data stored in said variable length data field except for data stored in said control field regardless of whether or not said one record is stored in said cache memory;

checking whether or not said write data is valid for the data field of said one record; and

notifying an error to said data processing unit without accessing said one record of said disk storage unit if said write data received from said data processing unit is invalid for the data field of said one record.

32. (New) A method according to claim 31, further comprising the steps of:

storing said write data into said cache memory without accessing said one record on said disk storage unit;

performing write operation to write said write data into said disk storage unit; and

notifying completion of said write request to said data processing unit before completion of said write operation.

33. (New) A method according to claim 32, wherein said checking step includes a step of checking data length of said write data.

34. (New) A method according to claim 33, wherein said step of checking data length is performed on the basis of track information that enables said controller to recognize length of the data field of respective said plurality of records of said storage unit.

35. (New) A disk storage system comprising:

a disk storage unit having a plurality of records capable of being accessed by a data processing unit, each of said records having a variable length data field for storing data and a control field which includes data indicating a length of the data field;

a control unit connectable to said data processing unit, having a controller and a cache memory for storing data in some of said plurality of records of said storage unit;

wherein said controller receives from said data processing unit a write request and write data to be stored in the variable length data field of said one record for updating data stored in said variable length data field of said one record without updating data stored in a control field of said one record, regardless of whether or not said one record is stored in said cache memory, and if said write data received from said data processing unit is invalid for the data field of said one record, said controller notifies an error to said data processing unit without accessing said one record of said storage unit.

36. (New) A disk storage system comprising:

a disk storage unit having a plurality of records capable of being accessed by a data processing unit, each of said records having a variable length and data field for storing data and a control field which includes data indicting a length of the data field; and

a control unit connectable to said data processing unit, having a controller and a cache memory for storing data in some of said plurality of records of said storage unit;

wherein said controller receives a write request to update data stored in said variable length data field of one record without updating data stored in a control field of said one record by write data send from said data processing unit, regardless of whether or not said one record is stored in said cache memory, and if said write data received from said data processing unit is invalid for the data field of said one record, said controller notifies an error to said data processing unit without accessing said one record of said storage unit.